

IN THE SPECIFICATION

Please replace the paragraph at page 3, lines 5-13, with the following rewritten paragraph:

The signal ~~suffers~~ undergoes, for example, a 256 points Fast Fourier Transformation in the Fast Fourier Transformation unit 103. The values of the obtained frequency spectrum amplitude are divided into, for example, 18 bands in the band dividing unit 104. The band divided input signal spectrum  $Y [w, k]$  is sent to the spectrum correction unit 110 along with the noise spectrum estimation unit 126 and the  $H_n$  value calculation unit 107 in the noise estimation unit 105. Here  $w$  denotes a band number.

Please replace the paragraph at page 3, lines 14-19, with the following rewritten paragraph:

Then, the framed ~~signal~~ signals  $y_{\text{frame}} [j, k]$  are discriminated into the voice signal frames and noise frames in the noise estimation unit 105 so that noise like frames are identified. Simultaneously the estimated noise level value and the maximum SNR (Signal to Noise ratio) are sent to the NR calculation unit 106.

Please replace the paragraph at page 6, lines 10-21, with the following rewritten paragraph:

In the aforementioned noise reducing apparatus, the filter removes the noise spectrum from the input spectrum, corresponding to the proportion of the estimated noise signal to the input voice signal (estimated SNR) as well as the noise signal level. The spectral suppression processing is carried out, by controlling the filter characteristic, according to the distribution of the voice signal and the noise signal. The distortion of the object signal is restricted to the minimum and a large suppression of the noises are secured. ~~Although, and thus the~~

aforementioned noise reducing apparatus has ~~such an~~ some excellent ~~characteristic~~ characteristics. However, the conventional apparatus also has the following problems.

Please replace the paragraph at page 13, lines 5-11, with the following rewritten paragraph:

The noise amplitude spectrum updating rate coefficient  $r$  is given corresponding to the noise likeness level  $N_{\text{level}}$ , as shown in Table 1. ~~Larger~~ The larger the value of  $r$  is, the stronger the influence of the input amplitude spectrum of the present frame on ~~an~~ a noise amplitude spectrum  $N[f]$  is. The noise amplitude spectrum  $N[f]$  is an average value of the noise spectrum in the past and is explained below.

Please replace the paragraph at page 29, lines 8-22, with the following rewritten paragraph:

In this fourth embodiment, the input amplitude spectrum and the noise amplitude spectrum are smoothed, using  $[[a]]$  spectrum smoothing coefficients, which correspond to the SNR of the input signal. On the basis of these quantities, a spectrum correction gain is calculated. And the noise suppression processing is carried out, using the spectrum correction gain. Therefore, the variation of the spectrum correction gain can be controlled, corresponding to the SNR of the input signal. Thus, according to this fourth embodiment, it is possible to weaken the strange feeling that the noise removal spectrum in the time base or in the frequency base changed discontinuously, even in noise sections, for example, where the SNR is low. Namely, it is possible to suppress the generation of a strange sound in the output sound so that a suitable suppression of noise can be attained.

Please replace the paragraph at page 32, lines 14-20, with the following rewritten paragraph:

As another modification of the fourth embodiment, the input amplitude spectrum can be divided not corresponding to the frequency component but into a plurality of band ~~region~~ regions, and to calculate the spectrum smoothing coefficient on the basis of the average spectrum of each of the band regions. Fig. 5 is a block diagram showing the construction of the sixth embodiment.

Please replace the paragraph at page 36, line 20, to page 37, line 1, with the following rewritten paragraph:

The spectrum band dividing unit 23 divides the input amplitude spectrum into a plurality of frequency bands and calculates the average spectrum for each of the frequency bands. Further, the spectrum band dividing unit 23 divides the noise amplitude spectrum into a plurality of the frequency bands and calculates the average spectrum for each frequency bands, in the same manner as in the sixth embodiment.

Please replace the paragraph at page 38, line 14, to page 39, line 15, with the following rewritten paragraph:

As explained above, in the noise suppression apparatus according to one aspect of the present invention, the following procedures ~~is~~ are carried out. That is, corresponding to the noise likeness of the input signal frame, the noise amplitude spectrum is calculated using the input amplitude spectrum of the frame, then the noise amplitude spectrum correction gain and the noise removal spectrum correction gain are calculated on the basis of the noise amplitude spectrum, an input amplitude spectrum and respective coefficients; the first noise removal spectrum is calculated by deducting the product of the noise amplitude spectrum and the

noise amplitude spectrum correction gain from the input amplitude spectrum; the second noise removal spectrum is calculated by multiplying the first noise removal spectrum by the noise removal spectrum correction gain, which is sent from the correction gain calculation unit; and the second noise removal spectrum is transformed into a time domain signal.

Because a suitable spectrum reduction and spectrum amplitude suppression corresponding not only to the noise signal level but also to the input signal level are carried out, even at a section where the input sound signal suddenly changes, for example, at the head portion of words in speech. ~~The,~~ the impression of extinguishment or hiding of the head portion of the words in speech, due to an excessive spectrum reduction or suppression, can be avoided. It is possible to enhance the noise suppression in sound sections, avoiding an excessive spectrum suppression in sound sections. Thus, a suitable noise suppression can be attained.